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ORIGINAL ARTICLE

Media Use and Men's Risk Behaviors: Examining the Role of Masculinity Ideology

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Abstract Although research indicates significant associations between exposure to certain types of media and men's participation in high-risk behaviors, less is known about the potential mediating role of masculinity ideology, which is also linked to risk behaviors. Accordingly, the purpose of the present study was to investigate the relation between multiple forms of media, masculinity ideology, and participation in high-risk behaviors among a sample of 449 undergraduate men from a U.S. Midwestern university. Survey results indicated that overall television use, sports television, and movie viewing were significantly associated with stronger endorsement of masculinity ideology. Masculinity ideology, in turn, was associated with sexual risk-taking, alcohol use, drug use, and speeding while driving. Furthermore, masculinity ideology was found to mediate the relation between these media formats and risk outcomes. These findings highlight several ways in which various media formats and traditional masculine norms promote behaviors that put men at increased risk for sexually transmitted diseases, substance abuse problems, and physical injury.

Keywords Television · Sports television · Movies · Masculinity ideology · Risk-taking · Alcohol use · Drug use · Driving · Speeding · Sexual behavior

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For many, adolescence and emerging adulthood (ages 18–25) are times of self-discovery and exploration (Arnett 2000). Exploration can often mean trying new activities, expanding one's social circles, and taking risks. Although these risks can take multiple forms, substance use, reckless driving, and risky sexual behaviors are particularly prevalent during emerging adulthood (Adefuye et al. 2009; Wechsler et al. 1995; Weinstock et al. 2004). Despite being somewhat normative during this developmental period, engaging in high-risk behavior has significant consequences for youth. For example, college students who frequently binge drink are eight times more likely to be injured or get in trouble with police than are students who do not binge drink (Wechsler et al. 2000), and injuries (often traffic or substance related) account for three quarters of all deaths among 20–24 year-olds (Fingerhut and Anderson 2008). Mainstream media have frequently been implicated as a possible source from which youth learn which types of risky behaviors are accepted, expected, or appropriate. Although the notion of popular media is continually changing and expanding and now encompasses a range of formats from traditional media like television, movies, and magazines to newer formats like social media sites and user-

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uploaded programming (e.g., YouTube), the current study focuses specifically on television and movie viewing.

Assessments of U.S. television and movie content have documented a high prevalence of risk behaviors including substance use, reckless driving, and behaviors that contribute to sexual risk (Christenson et al. 2000; Kunkel et al. 2003, 2001; Manganello and Chauhan 2011; Roberts and Christenson 2000; Roberts et al. 1999; Russell and Russell 2009; Russell et al. 2009). In a content analysis of 24 primetime television series, Will et al. (2005) found that 74% of driving scenes depicted unrestrained passengers and 20% depicted moving violations such as speeding or ignoring traffic signs. Substance use was prevalent in 55% of scenes—78% of which portrayed alcohol use; 18%, tobacco use; and 13%, the use of illegal drugs or misuse of prescription drugs. Additionally, scenes with sexual encounters and implied intercourse failed to portray safe sex practices. For example, condom use and discussions of sexual histories were depicted in only 3% of sexual scenes, and open discussions about potential consequences of sex were depicted in 6% of scenes. Risky behaviors, as a whole, were largely depicted without consequence (Will et al. 2005). In another example, a content analysis of the top grossing action movies from 2005 to 2006 found risky driving behaviors, such as speeding, screeching tires, hard breaks, and sudden accelerations to be present in 44.9% of scenes (Beullens et al. 2010). Of the risky driving scenes observed, 31.8% resulted in a car crash, 27.9% resulted in damage to the vehicle or surroundings, and no scenes included any mention of legal consequences. Together, these findings indicate that although depictions of risky behaviors are common in television and movies, portrayals of negative outcomes are minimal.

Theoretical Framework

Might regular TV and movie exposure, which likely include exposure to these risk behaviors, also affect viewers' own engagement in risk-taking? Several theoretical models have been proposed to explain how exposure to media content may influence viewers' attitudes or behaviors. Cultivation theory proposes that continued exposure to homogenous media messages shapes viewers' notions of reality by fostering attitudes congruent with media representations (Gerbner et al. 1978). Cultivation has become one of the most prominent theories in communication research and has been widely used to investigate how media may shape viewers' beliefs about others (e.g., women, racial minorities), the self (e.g., body satisfaction), and certain behaviors (e.g., crime, alcohol use). Given the pervasiveness of risk-behaviors across media, cultivation theory would suggest that frequent consumers of such media should view such behaviors as more normative or acceptable than less frequent viewers would. Providing empirical support for this hypothesis, one study found that cumulative television exposure was linked with adolescents' beliefs about alcohol (Russell et al. 2014). Those who viewed more television overall, regardless of genre, were less likely to view heavy alcohol use as risky and were more likely to indicate an intent to drink. Similarly, Russell and Buhrau (2015) investigated how television's frequent portrayals of fast food relate to viewer attitudes towards fast food. They found that teens who consumed a great deal of television held more positive and less negative beliefs about the consequences of eating fast food compared to peers who watched less television.

Another prominent theoretical perspective that addresses our question is social cognitive theory, which proposes that viewers can learn which behaviors are appropriate and inappropriate through the observation of media models (Bandura 1994). The likelihood of learning and modeling specific behaviors further depends on various factors, such as the attractiveness of or identification with media models, the rewards or punishments experienced by media models, and the salience of behaviors. Thus, viewers exposed to attractive media models who receive many positive and few negative consequences for engaging in high-risk behaviors should hold more favorable attitudes towards those behaviors and be at greater likelihood of participating in those behaviors than would viewers of risk-neutral media. For example, Kulick and Rosenberg (2001) found that participants who were exposed to films depicting positive outcomes of alcohol consumption were more likely to hold positive expectancies of drinking than were those who were exposed to either negative depictions of alcohol consumption or a control condition with no depictions of alcohol consumption. In a separate study, Eyal and Kunkel (2008) randomly assigned college students to view TV programs portraying either positive or negative consequences of sexual intercourse. Consistent with social cognitive theory, those who viewed programs portraying negative consequences were more likely to report negative attitudes towards premarital sex and more negative judgments of the characters involved. Likewise, experimental studies have demonstrated that participants who are exposed to risk-promoting media content are more likely to show subsequent risk-taking compared with those exposed to risk-neutral content (Fischer et al. 2008, 2007).

Media Use and Risk-Taking Behaviors

Is there any evidence that regular exposure to this content is associated with more frequent participation in specific risk-taking behaviors? Although this is an important question, it is also one that is challenging to answer. Contributions of media use to behavioral outcomes such as risk behaviors are likely too complex to be adequately captured by a single direct

link. Nonetheless, research studies employing various methodologies (correlational, experimental, longitudinal) suggest an association between media exposure and risky behavior, depending on the media format and domain of risk in question.

One domain of risk behavior believed to be affected by media exposure is that of alcohol and drug use. Correlational research has found an association between television viewing and alcohol use, with more frequent viewers reporting higher rates of alcohol consumption than less frequent viewers do (Stacy et al. 2004). In a longitudinal design, Van den Bulck and Beullens (2005) found that heavier television exposure among adolescents predicted greater alcohol consumption one year later. Similarly, Robinson et al. (1998)) found that hours of television viewing were associated with the onset of drinking in adolescents. Experimental designs have also shown that undergraduate participants consume more alcohol when exposed to movies or commercials containing depictions of alcohol than when exposed to media without any drinking content (Engels et al. 2009; however, see Koordeman et al. 2012, for null results).

A second risk domain proposed to be affected by media exposure is sexual risk-taking. Empirical findings provide support for a relation between television and movie viewing and earlier initiation of sexual activity, having a higher number of sexual partners, and less involvement in safe sex practices (Collins et al. 2004; DuRant et al. 2008; Pardun et al. 2005). One study by Ward et al. (2011) demonstrated many of these findings in a large sample of college men. Using structural equation modeling techniques, Ward and colleagues tested the relation between exposure to various forms of media, men's sexual cognitions, and behaviors that contribute to sexual risk. Results indicated that men who frequently viewed movies expressed more support of non-relational sex and offered higher estimates of peer sexual activities. Endorsement of non-relational sex was in turn associated with a greater number of sexual partners, and perceiving more sexual experience of one's peers was associated with a younger age at first intercourse. Movie viewing also showed a direct association with a younger age at first intercourse.

A third risk domain found to be associated with media exposure is reckless driving, although these studies have typically focused on video games (Beullens and Van den Bulck 2013; Fischer et al. 2007, 2008, 2009; Hull et al. 2012). In their longitudinal investigation, Hull et al. (2012) found that playing risk-glorifying video games predicted later reports of risky driving behaviors such as speeding, tailgating, weaving through traffic, being pulled over by the police, involvement in car accidents, and a willingness to drink while under the influence of alcohol. Consistent with these findings, another study found that undergraduate men who were assigned to play racing games took more risks in simulated critical traffic conditions than men assigned to play neutral games (Fischer et al. 2007), even when simulated driving tasks took place a day after video game exposure (Fischer et al. 2009). Together, these findings offer both correlational and experimental evidence that exposure to certain types of media content is associated with participation in a range of risky behaviors during adolescence and emerging adulthood.

Gender and Gender Ideologies

Not all youth are equally likely to engage in risky behaviors, however. Male adolescents are more likely than their female counterparts are to report a variety of risky behaviors, including drinking, driving without permission, and smoking marijuana (Klein et al. 1993). This trend extends into young adulthood, where men report higher rates of binge drinking than women do (Wechsler et al. 1995). Gender discrepancies in participation of risk behaviors are further corroborated by crime, accident, and substance disorder statistics. Arrest records from 2014 indicate that men made up 78% of drug abuse violations, 75% of DUIs, 72% of disorderly conduct violations, and 81% of drunkenness offenses (United States Department of Justice, Federal Bureau of Investigation 2014). These numbers indicate that men still account for the majority of violations ending in arrests, even though arrest rates for men have fallen to a greater degree than arrest rates for women in the last decade (United States Department of Justice, Federal Bureau of Investigation 2014). According to the National Highway Traffic Safety Administration (NHTSA 2016), men are also more likely than women are to be victims of deadly car accidents. Of the 15,475 drivers who died in a motor vehicle crash in 2014, 71% were men. Of those collisions, 30% were attributed to speeding and 36% were alcohol-involved (NHTSA 2016). Furthermore, the DSM-V (American Psychiatric Association 2013) reports that rates of alcohol use disorder in the United States are greater among adult men (12.4%) than among adult women (4.9%). Similarly, rates of cannabis use disorder are greater among adult men (2.2%) than among adult women (0.8%), as well as among male adolescents (3.8%) than among female adolescents (3.0%). A similar pattern follows for many other clinical substance use disorders. Together these self-report, crime, and accident statistics all point to a large gender discrepancy in which men are far more likely than women are to participate in a wide range of high-risk behaviors.

Although previous research provides some support for a relation between various media formats and risk behaviors, these associations have often been found to vary between genders. For example, Krcmar and Greene (2000) found a positive association between violent TV exposure and participation in risky behaviors among male adolescents, with viewership of contact sports emerging as the strongest predictor. However, no consistent patterns emerged for female

adolescents, prompting the use of gender as a control variable in subsequent analyses. Similarly, Somers and Tynan (2006) found that exposure to suggestive dialogue and sexual content on television among youth aged 12–19 was positively associated with young men's, but not with young women's, history of sexual intercourse. Gendered patterns also emerged in Fischer and colleagues' (2007) studies on racing video games. Correlational results indicated a stronger association between racing game play and self-reported risky driving among men than among women. Additionally, experimental exposure to racing games as opposed to non-racing games predicted the number of risks taken in a subsequent driving simulation task among men, but not among women.

Together, these two sets of findings indicate that both risk-taking behaviors themselves and media contributions to risk behaviors may be more common occurrences among male adolescents and adult men than among female adolescents and adult women. To account for these emerging gender differences, gender is often used as a control variable in analyses. Although this practice acknowledges that these gender patterns exist, it does not elucidate the reason for these differences. Why might media use show a stronger connection to men's risk-taking behaviors than to women's? It is our premise that masculinity ideology may be a potential contributor to these observed gender differences. We explicate this argument in the following.

Masculinity Ideology and Risk

Masculinity refers to the constellation of traits and behaviors associated with being a man in a given culture. Although social constructionism allows the possibility of multiple conceptualizations of masculinity (Connell 1992), the dominant and idealized form of masculinity in many Western cultures is characterized by the embodiment of stereotypical and traditional masculine norms (i.e., hegemonic masculinity; Connell and Messerschmidt 2005). Levant et al. (2013) and Parent and Moradi (2009) argue that masculinity ideology is illustrated through emotional restrictiveness, self-reliance, aggression, and risk-taking. Masculinity ideology encourages heterosexual self-presentation through the display of homophobia, avoidance of traits and behaviors labeled as feminine, and casual attitudes about sexuality. Additionally, masculine norms posit that men should be concerned with earning and maintaining status, and therefore, masculinity ideology encourages competition, primacy of work, and displays of power over women.

Because masculinity is a social construct with no biological base, it must be achieved by individual men (Bosson and Vandello 2011; Kimmel 2008). Masculinity is also precarious so that it must be continually maintained even after it has been achieved (Vandello et al. 2008). Representative of this notion is Pascoe's (2007) extensive fieldwork at a suburban high school in which she found that young men commonly "performed" masculinity through homophobic teasing and heterosexist discussions of sexual experiences and girls' bodies. Because male adolescents and young adult men struggle with the desire to fit in and understand their own identity, they may be particularly vulnerable to relying on narrow gender expectations to guide their behavior.

One way in which young men perform masculinity is through participation in risky behaviors. Compared to those with less traditional attitudes, men with traditional gender ideologies are more likely to engage in unprotected sex (Pleck et al. 1993a; Santana et al. 2006), have a higher number of sexual partners (Noar and Morokoff 2002; Pleck et al. 1993a, b), feel less responsible for contraception (Pleck et al. 1993a), and view condoms more negatively (Noar and Morokoff 2002; Pleck et al. 1993a). Components of masculinity that emphasize notions of men as sex-driven are likely strong contributors to these attitudes and behaviors.

Endorsement of traditional masculinity ideology has also been associated with higher rates of alcohol use (Huselid and Cooper 1992; Monk and Ricciardelli 2003; Pleck et al. 1993b). Qualitative interviews with college students conducted by Peralta (2007) indicated that both women and men viewed heavy drinking as a masculine behavior, and thus, public drinking served as a context in which to display masculinity in front of peers. In these interviews, men discussed heavy drinking as indicators of strength, ability, and power. Endorsement of masculinity ideology has also been associated with drug use, but to a lesser degree. Pleck et al. (1993b) found that masculinity ideology was positively associated with the use of drugs, particularly marijuana, among a national sample of male adolescents aged 15 to 19. Similarly, Monk and Ricciardelli (2003) found that internalization of masculinity ideology, particularly anti-feminine attitudes, was associated with cannabis-related problems among Australian men aged 18 to 25. Together, these findings indicate that although masculinity ideology may be normative and expected, endorsement of such attitudes may have significant consequences for young men's health behaviors.

Media and Masculinity Ideology

Just as media models teach men about risk-taking behaviors, it is likely that the media could also be a chief source of input about masculinity. Indeed, youth today consume more media than at any point in the last decade, with exposure reaching almost 11 h of media content every day (Roberts et al. 2010). Moreover, evidence indicates that television and movies depictions are consistent with traditional masculinity. In general, male characters outnumber female characters, are more often portrayed as dominant or aggressive, are more likely to be employed, and, unlike women, are defined by roles other than

spouse or parent (for review, see Greenwood and Lippman 2010). Male characters also follow a heteronormative sexual script, described as "the Heterosexual Script." which is consistent with masculine norms (Kim et al. 2007, p. 146). In their analysis of 25 TV programs popular among youth, Kim et al. (2007) found that men on television are consumed by uncontrollable sexual desire and show a presumably natural preference for casual sex over emotional intimacy. These male characters asserted their power over women by not taking no for an answer, being the sexual initiators, and using their status (wealth, social power) as a courtship strategy. Men also displayed homophobic attitudes and showed open disdain of characteristics considered to be feminine through frequent gender-policing. Across all programs, references to the heterosexual script occurred an average of 15.5 times per hour. Sports television, in particular, greatly over-represents male athletes and places an emphasis on stereotypically masculine norms such as toughness and aggression (Messner et al. 2000).

In terms of the impact of this content, much of the existing research has measured gender-role attitudes in relation to women or general gender relations (i.e., sexism, adversarial sexual beliefs; Behm-Morawitz and Mastro 2009; Cobb and Boettcher 2007; MacKay and Covell 1997; Stermer and Burkley 2012). Less in known about how media shape viewers' acceptance and adherence to masculinity ideology, although some research has lent support for this link by examining particular components of masculinity. For example, television and film exposure has been associated with men's emotional withdrawal (Ben-Zeev et al. 2012), the belief that danger is thrilling and violence is manly (Scharrer 2005), and the belief that men are sex driven (Ward 2002; Ward and Friedman 2006; Zurbriggen and Morgan 2006). Furthermore, a more recent study found that sport-television viewing was associated with men's beliefs about masculinity *and* their personal adherence to masculinity ideology (Giaccardi et al. 2016).

The Present Study

Overall, research suggests that television and movies, which often depict images of risky behaviors and stereotypical male characters, as well as endorsement of masculinity ideology, are each *independently* associated with participation in risky behaviors, particularly for men. Our goal was to clarify the relations among media, masculinity ideology, and risky behaviors within a single model. We propose three hypotheses: (a) media use will be positively associated with masculinity ideology (Hypothesis 1); (b) masculinity ideology will be positively associated with sexual risk (Hypothesis 2a), alcohol use (Hypothesis 2b), drug use (Hypothesis 2c), and speeding while driving (Hypothesis 2d); and (c) masculinity ideology will mediate the relation between media use and risk outcomes (Hypothesis 3).

Method

Participants

Participants were 449 undergraduate men aged 18–25 ($M = 18.96$ $SD = 1.03$). Of this sample, 320 (71.3%) participants identified as White, 69 (15.4%) as Asian or Asian American, 16 (3.6%) as Latino/Hispanic, 14 (3.1%) as Middle-Eastern, 11 (2.4%) as Black or African American, and 15 (3.3%) as multiracial; 4 participants did not indicate their racial or ethnic identity. Participants were generally from well-educated families, with mothers having completed an average of 16.24 years of school ($SD = 2.35$, range = 11–22); fathers, 17.21 years of school ($SD = 2.71$; range = 11–22), with average levels equivalent to a Bachelor's degree. Of our sample, 392 (87.3%) participants identified as exclusively heterosexual, 8 (1.8%) as predominantly heterosexual, 15 (3.3%) as bisexual, 6 (1.3%) as predominantly gay, 6 (1.3%) as exclusively gay, and 3 (.7%) as unsure; 19 (4.2%) participants did not provide their sexual orientation.

Procedure

Participants were recruited through the Introductory Psychology subject pool across two semesters (Winter 2013, Fall 2013) at a large U.S. Midwestern university. Students who registered for our study, which was identified by a number only, completed the survey in small groups at a research lab. Participants were told that they would be completing a survey on "media use and social relationships" and were given one hour to complete an anonymous pen-and-paper survey. In return, students were given one hour of research credit towards their 5-h subject pool requirement. The present survey is part of a larger study on men's media use and their social and romantic relationships; therefore, additional measures were included in the survey packet that are not discussed here. These additional measures were interspersed with the measures described in the following, but appeared in the order described here.

Media Use Measures

Participants were asked to report the number of hours (0 to 10+) they spent viewing TV overall and spent viewing sports programming during a typical weekday, Saturday, and Sunday. A weekly sum score was computed for each medium by multiplying the weekday responses by 5 and then adding this product to the Saturday and Sunday amounts. Movie viewing was assessed by asking students to report how many

movies (0 to 10+) they viewed in a typical month at the theater, on a computer or DVD, and through premium channels. A sum score was then computed across these three items to reflect the total number of movies watched per month.

Masculinity Ideology

To assess adherence to masculinity ideology, participants were asked to complete the Conformity to Masculine Norm Inventory-46 (Parent and Moradi 2009). In an investigation of the CMNI's psychometric properties, Cronbach's alpha coefficients for subscales of the CMNI-46 ranged from .78 to .89 with an overall coefficient of .85, indicating good-to-excellent reliability (Parent and Moradi 2011). The CMNI showed convergent validity with corresponding subscales of the Brannon Masculinity Scale (BMS; Brannon and Juni 1984) and Male Role Norms Inventory (MNRI; Levant et al. 1992), as well as discriminant validity from the Balanced Inventory of Desirable Responding Impression Management Subscale (BIDR-IM; Paulhus 1994). This measure has been used successfully in studies linking masculinity ideology to men's drinking (Iwamoto et al. 2011), emotion dysregulation (Tager et al. 2010), and body image concerns (Kimmel and Mahalik 2005). Rather than assessing individual awareness of cultural norms through descriptive (e.g., men *are*) or prescriptive (e.g., men *should*) statements, the CMNI-46 measures personal adherence to masculinity ideology through agreement with first-person statements. Thus, the CMNI-46 lets us go beyond measuring men's beliefs, allowing us to make conclusions about how media may influence men's own behavior.

This 46-item scale measures nine dimensions of masculinity, such as emotional control (e.g., "I hate it when people ask me to talk about my feelings"), being sexually driven (e.g., "If I could, I would frequently change sexual partners"), and concern with heterosexual self-presentation (e.g., "I would be furious if someone thought I was gay"). Participants indicated their agreement with each of the 46 statements on a 6-point scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). A mean score was then calculated across all 46 items, with higher scores reflecting stronger adherence to masculinity ideology ($\alpha = .88$). SPSS estimated mean scores using all non-missing values.

Risky Behaviors

Sexual Risk

Sexual risk was assessed using items based on previous studies (Ward 2002; Ward and Rivadeneyra 1999; Ward et al. 2011). Sexual experience was measured by asking participants to rate their level of experience in dating and sexual relationships, ranging from 0 (*just starting out*) to 10 (*have had several sexual relationships*), with scores at or above a 4 indicating that they were no longer virgins. Participants were also asked to indicate their age at first intercourse and total number of previous sexual partners (open-ended). In order to adequately assess sexual risk beyond level of experience, four questions that focused on specific sexual behaviors were also included. These included two questions concerning the use of condoms or birth control at first and last intercourse (scored yes or no), a 4-point question concerning the frequency of sexual intercourse with casual sex partners (defined as "someone you just met"; response options ranged from 0 = *never* to 4 = *more than ten*), and a question assessing frequency of intercourse without the use of condoms or birth control (response options ranged from 0 = *never* to 5 = *always*). We then computed a single sex-risk score by adding participants' scores for age at first intercourse (19 or older = 1, 18 = 2, 17 = 3, 15 or 16 = 4, 14 and below = 5), number of sexual partners (1 = 1, 2 = 2, 3 through 5 = 3, 6 through 9 = 4, 10+ = 5), contraceptive use at first intercourse (yes = 0, no = 1), contraceptive use at most recent intercourse (yes = 0, no = 1), overall frequency of sex without condoms or contraceptives (0–5), and frequency of casual sex (0–4), with higher scores reflecting greater risk. Those who had not yet had sexual intercourse ($n = 167$, 37.2% of the sample) received sexual risk scores of 0; the possible range of scores then is from 0 to 21.

Alcohol and Drug Use

To evaluate men's substance use, we used a selection of items that are commonly used in studies assessing risk (Johnston et al. 2016). With regard to alcohol use, participants were asked to indicate how often they currently drink alcohol, drink to get drunk, and drink more than five drinks in one night on a scale from 0 (*never*) to 4 (*once a day or more*). An average score was computed across these three items, with higher scores indicating more alcohol consumption ($\alpha = .96$). Drug use was assessed using four items. Participants were asked to indicate how often they smoke marijuana, use prescription drugs for non-medical/recreational reasons, and use other drugs (e.g., cocaine, ecstasy, acid, speed) on a scale from 0 (*never*) to 4 (*once a day or more*). The fourth item asked participants to indicate how often they smoked cigarettes within the last year, with responses ranging from 0 (*never*) to 4 (*11 or more times*). An average score was computed across these four items to create a single substance use score, with higher scores indicating higher rates of substance use ($\alpha = .65$).

Speeding while Driving

Speeding behaviors were assessed using two questions. Participants were asked to indicate how often they had driven over 85 mph and how often they had driven greater than 20

mph over the speed limit within the last year. Possible responses ranged from 0 (*never*) to 4 (*11 or more times*). An average score was computed across these two items to create a single speeding score, with higher scores indicating more frequent speeding behaviors ($\alpha = .90$).

Results

Descriptive Statistics

Descriptive statistics for the main study variables are provided in Table 1. Participants reported watching an average of 12.79 h of television per week and 6 movies per month. Sports television programming was particularly popular, with an average of 9.53 h spent viewing sports TV each week. A total of 49.8% ($n = 223$) of participant scores on the CMNI fell below the midpoint and 50.2% ($n = 226$) of scores fell above the midpoint, with the majority of scores (73.4%, $n = 329$) falling between *disagree a little* and *agree a little* ($M = 3.48$, $SD = .48$, range = 1.58–4.91).

Prior to analyzing the data using structural equation modeling techniques, we conducted preliminary zero-order correlations between all variables (see Table 1). Results illustrate that all three media variables were positively associated with adherence to masculinity ideology. In addition, television viewing was associated with greater alcohol use, Sports TV was associated with greater sexual risk and greater alcohol use, and Movie viewing was associated with all four risk outcomes. Masculinity ideology, in turn, was positively associated will all four risk outcomes.

Hypothesis Testing

We used Structural Equation Modeling with maximum likelihood estimation in MPlus to test the relation among media use, masculinity ideology, and risk outcomes. We followed the recommendations of Anderson and Gerbing (1988) by testing a measurement model first, followed by a structural model. In each model, media exposure was treated as a latent construct with TV, Sports TV, and Movies used as separate indicators. Items from the CMNI were distributed onto three "parcels" using a random number generator, and each parcel loaded onto a single latent construct for Masculinity Ideology. Alcohol use, drug use, and speeding were modeled as separate latent constructs, with corresponding survey questions serving as indicators for each. Sexual risk was modeled as a manifest variable using our composite sexual risk variable and therefore was included in the Structural Model but in not the Measurement Model. Because the Chi-squared goodness-of-fit test is known to be sensitive to large sample sizes, the CFI (Comparative Fit Index) and RMSEA (Root-Mean-Square Error of Approximation) were utilized to assess model fit. A CFI above .90 and RMSEA around .08 indicate a satisfactory fit of the model (Reise et al. 1993; van de Schoot et al. 2012). The measurement model showed satisfactory fit, χ^2 (78, $N = 449$) = 256.358, $p < .001$, CFI = .94, RMSEA = .07 with 90% CI [.06, .08]. Standardized factor loadings were all significant at $\alpha = .001$.

Next, we tested our proposed structural model that included paths between media exposure (IV) and masculinity ideology (mediator), and from masculinity ideology to each risk outcome (DVs). The structural model (see Fig. 1) indicated acceptable fit, χ^2 (92, $N = 449$) = 314.799, $p < .001$, CFI = .93, RMSEA = .07 with 90% CI [.07, .08]. Media use was positively associated with greater adherence to masculinity ideology, providing support for Hypothesis 1. In turn, adherence to masculinity ideology was positively associated with greater sexual risk, alcohol use, drug use, and speeding. Thus, Hypotheses 2a through 2d were also fully supported.

To examine whether masculinity ideology fully mediates the relation between media use and risk outcomes (Hypothesis 3), we tested a nested model (see Fig. 2). This model includes the same pathways as our original model, with additional direct pathways between media use and each risk outcome. This model, consistent with partial mediation, showed adequate fit, χ^2 (88, $N = 449$) = 307.499, $p < .001$, CFI = .93, RMSEA = .08 with 90% CI [.07, .08]. Media use was positively associated with masculinity ideology, which in turn, was associated with each risk outcome. In regards to direct pathways, only the path from media use to drinking emerged as significant, suggesting that higher levels of media use are associated with greater levels of drinking. We compared this partial mediation model to our original fully mediated model using a Chi-squared difference test as outlined by Kline (2011). We found no significant difference between the models, χ^2_{diff} (4) = 7.3, $p = .12$, suggesting that both models fit the data equally well. In such a case, the more parsimonious model (full mediation) is preferred (Kline 2011). Thus, masculinity ideology fully mediates the relation between media use and risk-taking, supporting Hypothesis 3.

Discussion

Overall, results from the current study provided support for a mediational association among media use, masculinity ideology, and participation in risk behaviors. Correlational results showed an association between adherence to masculinity ideology and overall television viewing, sports television, and movie viewing. Furthermore, structural equation modeling techniques found that media use, when considered overall, was associated with stronger endorsement of masculinity ideology. These findings are consistent with results from previous studies, which indicate a relation between media use and traditional gender attitudes (Behm-Morawitz and Mastro

Table 1 Descriptive statistics and correlations among study variables ($N = 449$)

Variables	*M (SD)*	Range	Correlations 1	2	3	4	5	6	7	8
1. TV Hrs/Week	12.79 (10.63)	0–62	--							
2. SportsTV Hrs/Week	9.53 (9.73)	0–70	.62***	--						
3. Movies/Month	6.06 (4.77)	0–30	.42***	.31***	--					
4. Masculinity (CMNI)	3.48 (.48)	1.58–4.91	.16**	.20***	.13**	(α = .88)				
5. Sexual risk	3.92 (4.38)	0–18	.06	.10*	.22***	.35***	--			
6. Alcohol use	1.71 (1.09)	0–4	.15**	.19***	.11*	.33***	.38***	(α = .96)		
7. Drug use	.46 (.64)	0–3	.02	.04	.12*	.22***	.39***	.53***	(α = .65)	
8. Speeding	1.51 (1.32)	0–4	.07	.09	.15**	.32***	.29***	.38***	.31***	(α = .90)

*$p < .05$. **$p < .01$. ***$p < .001$

2009; Cobb and Boettcher 2007; MacKay and Covell 1997; Stermer and Burkley 2012) and components of masculinity ideology (Ben-Zeev et al. 2012; Giaccardi et al. 2016; Scharrer 2005; Ward 2002; Zurbriggen and Morgan 2006). In addition, results from our study replicate previous findings that show a link between masculinity ideology and a wide array of risky behaviors (Huselid and Cooper 1992, 1994; Monk and Ricciardelli 2003; Noar and Morokoff 2002; Peralta 2007; Pleck et al. 1993a, b; Santana et al. 2006). Specifically, correlational and structural equation modeling techniques found that stronger endorsement of masculinity ideology was associated with more frequent engagement in risky sexual behaviors, alcohol use, drug use, and speeding while driving.

With regards to a direct relation between media and risky behaviors, results from the present study are more nuanced. In correlational analyses, all media variables were associated with at least one risk outcome. Movie viewing, in particular, was associated with all four risk outcomes. However, once masculinity ideology was taken into account in Structural Equation Modeling analyses, direct links between media use and risk were minimal. Instead, masculinity ideology was found to mediate the relation between media use and risk behaviors. We suggest that future studies continue to investigate the role of masculinity and other possible mediators because they may help shed light on previous mixed or null findings (e.g., DuRant et al. 2008; Gunter et al. 2009; Kean and Albada 2002; Koordeman et al. 2012). Together, data from our study suggest that, for men, media use is indirectly related to participation in risky behaviors by way of masculinity ideology.

Limitations and Future Directions

Although the present study provides numerous valuable insights, it is also constrained by certain limitations. For example, data reported here are cross-sectional and correlational and thus, conclusions should be drawn carefully. Structural equation modeling techniques alone cannot answer questions of directionality. Although we argue that higher exposure to media leads to greater endorsement of masculinity ideology and, in turn, to greater participation in risky behaviors, one could argue that those who already engage in more frequent risky behaviors are more likely to seek out media that

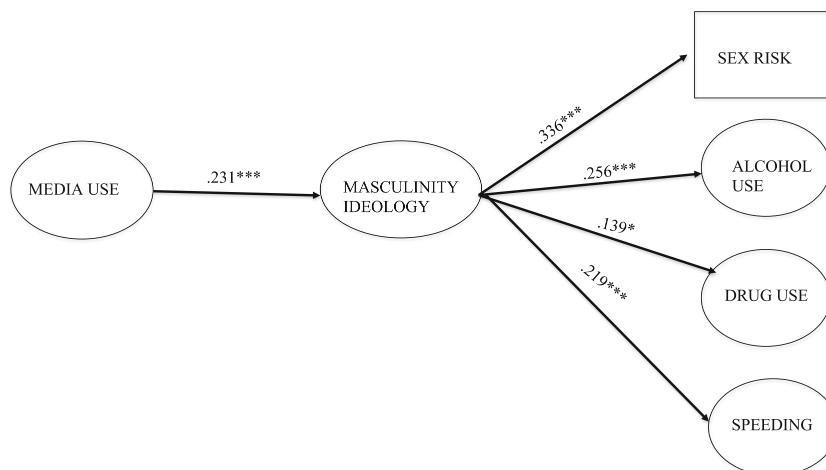

Fig. 1 Full mediation model with standardized coefficients, χ^2 (92, $N = 449$) = 314.799, $p < .001$, CFI = .93, RMSEA = .07 with 90% CI [.07, .08]. *$p < .05$. **$p < .01$. ***$p < .001$

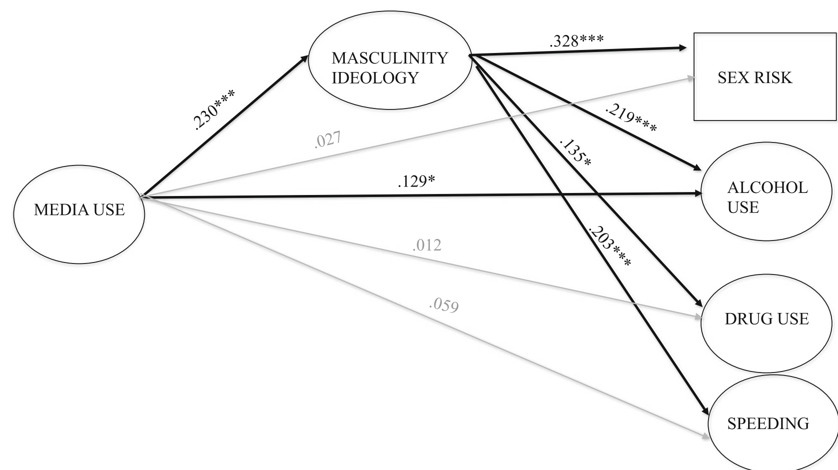

Fig. 2 Partial mediation model with standardized coefficients, χ^2 (88, $N = 449$) = 307.499, $p < .001$, CFI = .93, RMSEA = .08 with 90% CI [.07, .08]. $^*p < .05$. $^{**}p < .01$. $^{***}p < .001$

reinforce or glorify those behaviors. Future studies should use longitudinal and experimental designs to elucidate the issues of directionality and causation.

Furthermore, our assessment of speeding is a limited and narrow representation of a broad range of possible reckless driving behaviors. It is likely that our study underestimates the ways in which media may encourage other forms of driving behaviors, such as distracted driving, weaving through traffic, seatbelt use, or aggressive braking or accelerating. Future studies should aim to assess a broader range of driving behaviors using more comprehensive measures. Furthermore, greater effort should be put into establishing consensus around the core components of reckless driving and validating a measure that can be used across studies. In addition, results cannot be generalized broadly due to the homogeneity of our sample. Participants consisted of undergraduate men enrolled in a prestigious U.S. Midwestern university, the majority of whom were from highly educated two-parent households. Participants were also predominantly White and heterosexual. Future research should examine the model presented in the present paper with participants of diverse socioeconomic status, racial and ethnic backgrounds, and sexual orientations.

Another avenue for future research includes focusing on the separate components of masculinity ideology and their specific contributions to physical and mental health outcomes. Because the purpose of the present study was to establish an overall relation among media use, masculinity, and risk outcomes, we treated masculinity ideology as a single composite variable. Here, correlational results illustrate that overall endorsement of masculinity ideology is associated with greater risk-taking. However, components of masculinity may vary in their role as risk factors depending on the physical or mental health outcomes in question. For example, previous studies have found a relation between the endorsement of masculinity ideology and alexithymia, or the inability to verbalize emotions (Levant et al. 2003). In this situation, emotional control and self-reliance might be particularly important contributors, whereas heterosexual self-presentation and risk-taking may not. Future research should examine if and how components of masculinity differ in their status as risk or even protective factors depending on the outcomes in question.

Practice Implications

Our findings highlight the importance of taking into account gender norms and expectations when considering the role of media in shaping risk-prone attitudes and behaviors. Although risky behaviors may be commonly portrayed and frequently glamorized across a variety of media formats, traditional gender norms that require men to continuously prove their masculinity may place men at heightened risk of accepting these behaviors as appropriate. The centrality of achieving and maintaining masculine identity in promoting or sustaining risky behaviors may help to explain why women with substance abuse disorders are less likely than men are to relapse after treatment and show better treatment outcomes in general (for a review, see Green 2006). Strong adherence to masculine norms may also explain why, despite falling crime rates, men continue to make up the majority of criminal offenders. Thus, any attempts to change risk patterns among men may also benefit from attention to gender.

However, interventions intended to curb risky behaviors must be careful in *how* they attend to gender. Fleming et al. (2014) warn that well-intentioned programs like "Man Up Monday," a media campaign intended to promote STI-testing among men, may inadvertently reinforce the same masculine norms that put men at risk in the first place. Rather than attempting to reach men through gendered-language, Fleming and colleagues suggest that interventions should encourage men to recognize and think critically about masculine norms that promote health-risk behaviors and serve as barriers to seeking health services.

Conclusion

The purpose of our study was to investigate associations among various media formats, masculinity ideology, and risky behaviors among men. We hypothesized that greater overall media consumption would be positively associated with personal adherence to masculinity ideology, which would in turn be positively associated with participation in risky behaviors. Overall, results from the current data supported these expectations. Including masculinity ideology as a mediator helps explain *why* some connections between media use and risk behavior might be occurring.

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